Maryland CTE Program of Study

FIRE EMERGENCY MEDICAL TRAINING/HIGH SCHOOL CADET

**Secondary CTE Program of Study Proposal Form**

Maryland State Department of Education

Division of Career and College Readiness

200 West Baltimore Street

Baltimore, Maryland 21201-2595

This agreement is between the Division of Career and College Readiness (DCCR), Maryland State Department of Education, and the local school system listed below.

**LOCAL SCHOOL SYSTEM INFORMATION –** Complete the information requested below, including the original signature of the CTE local director.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Local School System (LSS) and Code: | | | | | | | | | |  | | | | | | | |
| Name of CTE local director: | | | | | | | |  | | | | | Phone: | | |  | |
| LSS Career Cluster: | | | | | |  | | | | | | | | | | | |
| LSS Program Title: | | | |  | | | | | | | | | | | | | |
| Pathway Options: | 1. | | | | | | | | | 2. | | | 3. | | | | |
| Value Added Options: | | yes  no | | | | This program provides students the opportunity to earn early college credit. The academic and technical course sequences for both secondary and postsecondary programs are included herein. | | | | | | | | | | | |
| yes  no | | | | Enclosed is a copy of the articulation agreement (Copy required for CTE program approval if the program is articulated with a postsecondary education provider). | | | | | | | | | | | |
| yes  no | | | | This program provides students with the opportunity to earn an industry-recognized credential. The credential is identified herein. | | | | | | | | | | | |
| Program Start Date: | | | | |  | | | | | | |  | | |  | | |
| Signature of CTE Local Director: | | | | | | | | |  | | | | | | Date: | |  |
| Signature of Local Superintendent: | | | | | | | | |  | | | | | | Date: | |  |

**TO BE COMPLETED BY MSDE/DCCR**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date Program Proposal received by CTE Systems Branch: | | | |  | | | | |
| CTE Control Number: | |  | | | Fiscal Year: | |  | |
| CIP Number: | Program: **43.0250** | | Pathway  Option 1: | | | Pathway  Option 2: | | Pathway  Option 3: |
| MSDE Cluster Title: | |  | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Approval Starts FY: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  |  | | |
|  |  |  | | |
| Signature, Assistant State Superintendent, Career and College Readiness | | |  | Date |

**CTE Secondary Program Proposal Contents**

**STEP 1A: PROGRAM ADVISORY COMMITTEE MEMBERS AND THEIR AFFILIATIONS**

Complete the list of the Program Advisory Committee (PAC) members. Members should include employers, local workforce development representatives, economic development personnel, business, or labor representatives, and the remainder should include secondary and postsecondary, academic and technical educators and other stakeholders. Place a check in the appropriate box to indicate the role each person plays. Include all of the information requested for each entry. Use this form or a locally developed form – either one is acceptable as long as all information is provided.

# Program Advisory Committee List

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Membership: First entry should be the industry representative who is leading the PAC.** | | | | | | | | |
| PAC Leader Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |
| Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |
| Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |
| Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |
| Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |
| Name: | |  | | | | Representation: | | |
| Title: | |  | | | | Industry  Secondary  Postsecondary | | |
| Affiliation: | |  | | | | | | |
| Address1: | |  | | | | | | |
| Address2: | |  | | | | | | |
| City, State, Zip: | |  | | State: | |  | Zip |  |
| Phone: | |  | | Fax: | |  | | |
| Email: | |  | | | | | | |
| Area of Expertise: | |  | | | | | | |
| Role: | Work-based Learning  Curriculum Development  Skills Standards Validation  Staff Development | | | | | | | |
| Program Development | | Other (specify): | |  | | | |

STEP 1B: DOCUMENTED LABOR MARKET DEMAND – Check the appropriate box below.

Demand exists

The PAC will review labor market information on a local, regional and/or state basis. Check this box if demand exists for the identified occupations. The labor market information does not need to be provided with the proposal as long as there is a demand for employees according to data provided by the Department of Labor, Licensing and Regulation (DLLR) or documented by employers in letters or other correspondence.

If evidence for labor market demand is not readily available, attach documentation to the proposal.

Check this box if there is a unique labor market demand for a program and data are not available from the Department of Labor, Licensing and Regulation (DLLR). If the occupation is new or emerging and no data exist, supporting evidence is submitted with the proposal (i.e. document local, national, or regional trends, local circumstances, or provide letters from employers or local economic/workforce development offices documenting employment demand including the projected number of openings by pathway).

**STEP 2A: PROGRAM OVERVIEW** – After determining the cluster and pathway options, identify the standards used to develop the CTE program of study. Describe the program to be developed in detail based on what students are expected to know and be able to demonstrate as a result of participating in the program.

|  |
| --- |
| **Indicate the title and source of the skills standards for this program:**  Maryland Fire and Rescue Institute, National Fire Protection Association Professional Qualifications Standards and U.S. Department of Transportation |
| **Program Overview:**  Students will have an opportunity to participate in a career and technology program related to fire prevention and control and emergency medical technology. The program includes classroom instruction as well as formal training at selected local fire companies. Students are required to complete a minimum of 393 hours of work-based learning and take the seven certification exams. This CTE pathway program is designed to allow students to complete all requirements and be certified in this area as well as have opportunities to earn college credit.  In most school systems the classroom training will be provided by instructors from the Maryland Fire and Rescue Institute (MFRI) of the University of Maryland. Students are required to be a member in good standing of their local fire company and complete the required services in order to be eligible to sit for the industry certifications. This instruction will be supplemented with field trips and various guest speakers. In addition, students will be required to provide documentation demonstrating adequate physical fitness for participation in the program.  The following components of the Emergency Medical Training/High School Cadet are delivered through MFRI courses and certification exams. The following represent the core set of courses; however, school systems will have the option of adding additional courses/certifications to the core:   * Emergency Medical Technician or Emergency Medical Responder * Fire Fighter I * Truck Company Fireground Operations * Hazardous Materials Operations * Fire Fighter II * Rescue Technician – Site Operations * Rescue Technician – Vehicle and Machinery Extrication * Flexibility in the number of credits per year or the number of years to complete the program is allowable depending on local delivery of courses. This program outlines the suggested recommended sequence. Articulation agreements are developed with the community colleges listed on the Value Added options chart (Step 2E). Completion of a two-year program at the community colleges listed on the Value-Added options chart (Step 2E) articulates credit(s) in the Bachelor’s Degree program at UMUC depending upon the degree program and the articulation with the community college. |

**STEP 2B: COURSE DESCRIPTIONS AND END OF COURSE ASSESSMENTS** – Insert each CTE completer course title. Describe each course based on what students are expected to know and be able to demonstrate as a result of their participation. Check the assessment instrument(s) that will be used to document student attainment of the knowledge and skills included in each course and specify additional information as appropriate.

|  |
| --- |
| **Course Title: Emergency Medical Technician: (Includes a Minimum of 165 Hours of Instruction and Related Work-Based Learning)**  **Course Description:** The course involves the study of anatomy and physiology in a comprehensive examination of the knowledge, skills and abilities required to operate as a licensed Emergency Medical Technician in the State of Maryland. In addition to the classroom hours, the student is required to complete a significant volume of out of class (homework) assignments and assessments using the virtual classroom My Brady Lab and text reading assignments. My Brady Lab is a web-based course resource package that enhances and reinforces material from the course that is provided to students. It provides feedback to students so they can track their performance prior to the formalized testing included in the course.  This course provides students with the necessary knowledge and skills to perform emergency medical care in a pre-hospital environment at the basic life support level. Students will know and be able to:   * Recognize, assess, and manage medical and trauma signs and symptoms in patients of emergency situations; * Practice techniques for determining vital signs, bleeding control and bandaging; * Practice techniques for shock management; * Use proper techniques for fracture management; * Perform cardio pulmonary resuscitation and automatic electronic defibrillator administration; * Administer oxygen, manage airways, perform emergency medical management and patient assisted medications; * Use proper techniques for spinal immobilization, patient movement and transport;   Methods of instruction include lecture, discussion, classroom exercises case studies, audio/visual material, skills practical scenarios, quizzes, and practical skill evaluations. EMS field internship, written and practical exams, and affiliation with a BLS EMS operational program is also required.  **End of Course Assessment**  Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.  Teacher-designed end-of-course assessment  School system-designed end-of-course assessment  Partner-developed exam: (specify)  Licensing exam: (specify)  Certification or credentialing exam: (specify) Maryland Institute of Emergency Medical Services System (Three year certification which the EMT must take 24 hours of approved continuing education (12 hours didactic and 12 hours of skills). A current National Registry EMT certification at the time of Maryland renewal may be used.) Students are expected to take this exam.  Nationally recognized examination: (specify)  National Registry of Emergency Medical Technicians This examination is administered using Computer Adaptive Testing in a secure computer laboratory. Students who successfully pass this exam are placed on the National Registry of Emergency Medical Technicians. |

**Course Title: Emergency Medical Responder: (Includes a Minimum of 72 Hours of Instruction and Related Work-Based Learning)**

**Course Description:** The course provides the skills necessary to begin, at the emergency location, assessment and care for injured or ill patients. Upon successful completion of the course and State and National Registry testing, the student will be Maryland State certified and be able to provide immediate medical care to critically ill or injured patients until personnel with advanced training arrive to assist those personnel.

This course provides students with the necessary knowledge and skills to provide immediate medical care to critically ill or injured patients until personnel with advanced training arrive to assist those patients. Students will know and be able to:

* Provide patient assessment
* Practice techniques for determining vital signs, bleeding control and bandaging;
* Use proper techniques for fracture management and emergency medical management;;
* Perform cardio pulmonary resuscitation and automatic electronic defibrillator administration;
* Administer optional oxygen, manage airways; and
* Practice techniques for optional self and buddy WMD auto injectors.

Methods of instruction include lecture, discussion, classroom exercises case studies, audio/visual material, skills practical scenarios, quizzes, and practical skill evaluations. EMS field internship, written and practical exams, and affiliation with a BLS EMS operational program is also required.

**End of Course Assessment**

Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.

Teacher-designed end-of-course assessment

School system-designed end-of-course assessment

Partner-developed exam: (specify)

Licensing exam: (specify)

Certification or credentialing exam: (specify) Maryland Institute of Emergency Medical Services System (Three year certification which the EMR must take 12 hours of approved continuing education (6 hours didactic and 6 hours of skills). Maryland grants legal recognition for Emergency Medical Responders from most states, National Registry, and EMS Board approved certifying agencies. Students are expected to take this exam.

Nationally recognized examination: (specify) National Registry of Emergency Medical Technicians This examination is administered using Computer Adaptive Testing in a secure computer laboratory. Students who successfully pass this exam are placed on the National Registry of Emergency Medical Technicians..

|  |
| --- |
| **Course Title: Fire Fighter I: (Includes a Minimum of 108 Hours of Instruction and Related Work-Based Learning)**  **Course Description:** This course provides students with the knowledge and skills to safely and effectively perform basic firefighting operations as part of a firefighting team. Students will know and be able to:   * Apply the principles of fire behavior; * Understand the fundamentals of building construction; * Demonstrate knowledge of water distribution systems; * Identify, locate and assess fixed fire protection systems; * Understand ventilation and air currents as it applies to fire behavior; * Understand and apply knowledge of water pressure and hose streams; * Explain fire prevention practices; and * Demonstrate knowledge of Fire Fighter Professional Qualifications.   The major topics covered in this course are the fire department organization, communications, incident command system, ropes and knots, fire behavior, safety, fire prevention, personal protective equipment, fire extinguishers, respiratory protection, ventilation, hose lines, forcible entry, search and rescue procedures, and ladder and sprinkler systems.  Methods of instruction include lecture, discussion classroom exercises, audio/visual material, graded practical exercises, midterm and final examinations, series of practical examinations, and skills check off and homework assignments.  **End of Course Assessment**  Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.  Teacher-designed end-of-course assessment  School system-designed end-of-course assessment  Partner-developed exam: (specify)  Licensing exam: (specify)  Certification or credentialing exam: (specify) MFRI Examination for Fire Fighter I  Nationally recognized examination: (specify) |
| **Course Title: Truck Company Fireground Operations (Includes a minimum of 24 Hours of Instruction and Related Work-Based Learning)**  **Course Description:** The objective of this course is to provide the student with the fundamental principles of truck company operations and how they are integrated during fireground operations. Students will know and be able to:   * Demonstrate forcible entry, search and rescue, ventilation, salvage, overhaul, and ladders   Major topics covered in the course are the function and responsibilities of the truck company, forced entry, ground ladder use, techniques and procedures for locating victim, techniques for removal of smoke and gasses, salvage operations, checking for fire extension, procedures for overhauling, building construction, utility control, and electrical and lighting the fireground.  Methods of instruction include lecture, discussion, audio/visual material, practical skills exercises, a final examination and required assignments  **End of Course Assessment**  Successful Completion: Students must attend required classroom sessions, demonstrate proficiency in the practical skills evolutions and obtain a score of 70% or better on the final written and practical examinations in order to receive a MFRI completion certificate.  Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.  Teacher-designed end-of-course assessment  School system-designed end-of-course assessment  Partner-developed exam: (specify)  Licensing exam: (specify)  Certification or credentialing exam: (specify)  MFRI  Nationally recognized examination: (specify) |
| **Course Title: Hazardous Materials Operations: (Includes a Minimum of 24 Hours of Instruction and Related Work-Based Learning)**  **Course Description:**  This course provides students with the necessary knowledge and skills to respond to hazardous materials incidents. Students will learn to categorize hazardous materials, their storage and transportation; recognize the presence of hazardous materials and the likely behavior of such materials; estimate likely harmful emergency outcomes related to hazardous materials; and select appropriate action related to hazardous materials situations. Students will know and be able to:   * Analyze a hazardous materials incident; * Plan an initial response; * Implement the response; and * Evaluate the progress of the actions taken.   Major topics covered in the course include firefighter safety, regulations and standards, chemistry, recognition and identifications, Department of Transportation guidebook, site management, container behavior, defensive control measures, personal protective equipment, and decontamination. Methods of instruction include lecture, discussion, classroom exercises, audio/visual material, practical exercises, quizzes, observations, written examination and a final examination.  **End of Course Assessment**  Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.  Teacher-designed end-of-course assessment  School system-designed end-of-course assessment  Vendor-developed exam: (specify)  Licensing exam: (specify)  Certification or credentialing exam: (specify)  MFRI Examination for Hazardous Materials Operation  Nationally recognized examination: (specify) |
| **Course Title: Fire Fighter II: (Includes a Minimum of 60 Hours of Instruction and Related Work-Based Learning)**  **Course Description:** The objective of this course is to provide the knowledge and skills needed to become a journeyman firefighter. This course extends student’s knowledge and skills of the Fire Fighter I course.  Students will know and be able to:   * Apply rescue techniques, * Apply fire inspection practices, * Demonstrate safe ladder usage and * Demonstrate knowledge of the National Fire Protection Association Standard 1001.   Students will gain deeper understanding and application of the principles of fire behavior, building construction, water distribution systems, fixed fire protection systems, ventilation, water pressure and hose streams, fire prevention and Fire Fighter Professional qualifications.  Methods of instruction include lecture, discussion, classroom exercises, audio/visual material, practical skills graded, and a final examination.  **End of Course Assessment**  Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.  Teacher-designed end-of-course assessment  School system-designed end-of-course assessment  Vendor-developed exam: (specify)  Licensing exam: (specify)  Certification or credentialing exam: (specify)  MFRI Examination for Fire Fighter II  Nationally recognized examination: (specify) |
| **Course Title: Rescue Technician – Site Operations: (Includes a Minimum of 27 hours of Instruction and Related Work-Based Learning)**  **Course Description:** This course is designed to provide students with the knowledge and skills to perform site operations, victim management, maintenance of equipment, and the selection and use of specific ropes and rigging rescue skills. Site operations include identification of support resources required for specific rescue incidents, size up of a rescue incident, management of rescue incident hazards, management of resources in a rescue incident, conducting searches, performance of ground support for helicopter activities, and termination of a technical rescue operation.  Students will know and be able to:   * Triage victims, * Move victims in a low-angle environment, * Transfer victims to emergency medical services, * Inspect and maintain hazard-specific personal protective equipment, * Inspect and maintain technical rescue equipment, * Tie knots, bends and hitches for increasing ropes and rigging skills, * Construct a single-point anchor system * Use edge protection, * Construct a simple rope mechanical advantage system, * Direct a team in the operation of a simple rope mechanical advantage system in both a low- and high-angle raising operation, * Function as a litter tender in a low-angle lowering or hauling operation, * Construct and operate a belay system during a lowering or raising operation in a high-angle environment, and * Conduct a safety check.   **End of Course Assessment**  Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.  Teacher-designed end-of-course assessment  School system-designed end-of-course assessment  Vendor-developed exam: (specify)  Licensing exam: (specify)  Certification or credentialing exam: (specify)  MFRI Examination for Rescue Technician - Site Operations  Nationally recognized examination: (specify) |

|  |
| --- |
| **Course Title: Rescue Technician – Vehicle and Machinery Extrication (Includes a Minimum of 27 hours of Instruction and Related Work-Based Learning)**  **Course Description:** This course is designed to provide students with the knowledge and skills to perform specific rescue skills applicable to common passenger vehicles and simple machines (Level I) as well as rescue skills applicable to commercial or heavy vehicles, incidents involving complex extrication processes or multiple uncommon concurrent hazards, and incidents involving heavy machinery or more than digital entrapment (Level II).  Students will know and be able to:   * Plan for a vehicle or machinery incident, * Perform on-going incident size-up, * Establish scene safety zones, * Establish fire protection * Stabilize vehicles or machines, * Isolate potentially harmful energy sources, * Determine access and egress points, * Create access and egress openings, * Disentangle victims, * Remove packaged victims, and * Terminate vehicle or machinery rescue incidents.   **End of Course Assessment**  Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.  Teacher-designed end-of-course assessment  School system-designed end-of-course assessment  Vendor-developed exam: (specify)  Licensing exam: (specify)  Certification or credentialing exam: (specify) MFRI Written and Practical Examinations for Rescue Technician – Vehicle and Machinery Extrication  Nationally recognized examination: (specify) |

**STEP 2C: END-OF-PROGRAM ASSESSMENT** - Check the assessment instruments that will be used to document student attainment of the program knowledge and skills.

Teacher-designed end-of-program assessment

School system-designed end-of-program assessment and INTASC-based portfolio

Partner-developed exam: (specify)

Licensing exam: (specify)

Certification or credentialing exam: (specify)

Nationally recognized examination: (specify)

**STEP 2D: Program Sequence matrix (Include the program sequences for High School, Associate’s Degree, and Bachelor’s Degree)**

Identify the pathway options. Complete the program matrix for the 9-12 program, plus, for Tech Prep programs include the matrix for the two- or four-year college program of study. Indicate which courses receive CTE credit by placing the number of credits in parentheses after each CTE course title. Place an asterisk (\*) next to the course identified as the concentrator course indicating that the student has completed 50% of the program.

The program matrix defines a planned, sequential program of study that consists of a minimum of four credits in CTE coursework including work-based learning and/or industry-mentored projects. Work-based learning experiences or industry-mentored projects must be included in the program to obtain approval. The program matrix includes the recommended academic and CTE courses identified for the pathway and postsecondary linkages (i.e., dual enrollment, Tech Prep, transcripted and articulated credit).

CTE programs typically begin after ninth grade and do not include career exploration courses. Courses such as computer applications and keyboarding are not included in the completer sequence because they are required of all students. Academic courses are counted only if they are tailored to serve mainly CTE students and have been revised to reflect industry skill standards. Technology Education or Advanced Technology Education courses are not acceptable for credit in the career and technology education program sequence.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **The LSS program title should be the same one that appears on the cover page. If more than one pathway option is offered in the program, complete a matrix for each program option (MSDE will insert the CIP number).**  **Example: An Academy of Information Technology program may include options in web design & programming.** | | | | | | | | | |
| **Pathway/Program:** | | **Fire & Rescue** | | | | **CIP Number  (For MSDE Use)** | **43.0250** | | |
| **Graduation Requirements** | | **Grade 9** | **Grade 10** | | **Grade 11** | | **Grade 12** |
| English - 4 | | English 9 | English 10 | | English 11 | | English 12 |
| Social Studies - 3 | | Government or Modern World History | Government or Modern World History | | U.S. History | | Contemporary Issues, Economics or Psychology |
| Mathematics - 3 | | Algebra One or Algebra Two or Geometry | Algebra Two or Geometry | | Algebra Two or Trigonometry | | Trigonometry or Calculus or Statistics |
| Science - 3 | | Earth Science or Biology | Biology or Chemistry | | Chemistry or Anatomy & Physiology | | Chemistry |
| Physical Education -.5  Health Education - .5 | | Phys. Ed 9 and Health Education |  | |  | |  |
| Fine Arts - 1 | | Art One |  | |  | |  |
| Technology Education - 1 | | Foundations to Technology |  | |  | |  |
| CTE Completer Program – 4 credit \*concentrator course  **Based on how this program will be delivered by the school system, please indicate the concentrator course with an asterisk (\*) and the course number.** | |  |  | | **2 Credits**   * **Emergency Medical Technician or Emergency Medical Responder** * **Firefighter I** * **Truck Company Fireground Operations** * **Hazardous Material Operations** | | **2 Credits \* Based upon school system delivery, any of these courses could be designated as the concentrator course**   * **Firefighter II** * **Rescue Technician - Site Operations** * **Rescue Technician – Vehicle and Machinery Extrication** |
| Foreign Language - 2 and/or  Advanced Tech Ed - 2 | | Foreign Language One | Foreign Language Two | |  | |  |
| **Provide a list of examples of careers students are preparing to enter and postsecondary options:**  With less than 4-yr. degree: firefighter, emergency medical technician, dispatcher/communications officer, fire marshal, fire inspector, fire investigator  With a 4-yr. degree: fire protection engineer, forensic scientist, fire safety educator;  With more than 4-yr. degree: Federal special agent, senior instructor | | | | | | | |
| **Two Year College Program Sequence – Program Overview**  **Many local school systems provide postsecondary matrices in their program of study guides to inform students, parents, and counselors of the opportunities available to those enrolled in the program. Section 2E must be completed before a program is identified as Tech Prep. *A copy of the Articulation Agreement is required to be submitted with the proposal prior to program approval.***  **Describe the program to be developed in detail based on what students are expected to know and be able to do as a result of participating in the program.**  The associate of applied science degree program is designed to prepare graduates to work as paramedics or professional fire fighters, to assume leadership positions in the field or the transfer to a four-year institution to complete a bachelor’s degree. The certificate program is designed to prepare graduates to work as paramedics. | | | | | | | |
| **Program Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **College/Institution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | |
| **Recommended Sequence – Complete the program matrix for the postsecondary sequence for the articulated CTE program of study. Indicate which courses receive articulated or transcripted credit by PLACING THE NUMBER OF CREDITS IN PARENTHESES after each course title.**  The four Pre-Paramedic Courses are: These courses must be completed prior to official admittance to the community college program.  EMS 101 EMT – Basic – 6 credits (This course will articulate with the high school program for 6 credits).  EMS 260 EMT – Basic - 4 credits  BIO 202 Anatomy and Physiology One – 4 credits  BIO 203 Anatomy and Physiology Two – 4 credits | | | | | | | |
| **Semester 1** | | | **Semester 2** | | | | |
| CMP 101 Introduction to Information Systems – 3 credits  ENG 101 Fundamentals of English I – 3 credits  PSY 101 Introduction to Psychology – 3 credits | | | ENG 151 Fundamentals of English II – 3 credits  GEN ED Mathematics Requirement – 3-4 credits  SPN 101 Fundamentals of Spanish I – 3 credits  Summer Session One  EMS 255 Preparation for EMT –P Certification | | | | |
| **Semester 3** | | | **Semester 4** | | | | |
| EMS 201 Introduction to Paramedic Practice – 3 credits  EMS 205 Patient Assessment and Trauma Emergencies – 6 credits  EMS 261 EMT –P Field Experience I – 2 credits | | | EMS 206 Medical Emergencies – 6 credits  EMS 251 Special Populations – 3 credits  EMS 252 Crisis Operations – 3 credits  EMS 262 EMT – P Field Experience II – 2 credits | | | | |
| **Provide a list of career options for students who complete the program:**  Less than 4-yr. degree: fire marshal, dispatcher/communications office, fire inspector, fire investigator, firefighter  With 4-yr. degree: forensic scientist, fire protection engineer, fire safety educator, firefighter  With more than 4-yr. degree: Federal special agent, firefighter. | | | | | | | |
| **Four Year College Program Sequence – Program Overview**  **Complete this matrix if the program includes a four year degree option.**  **Many local school systems provide postsecondary matrices in their program of study guides to inform students, parents, and counselors of the opportunities available to those enrolled in the program. Section 2E must be completed before a program is identified as Tech Prep. *A copy of the Articulation Agreement is required to be submitted with the proposal prior to program approval.***  **Describe the program to be developed in detail based on what students are expected to know and be able to demonstrate as a result of participating in the program.** | | | | | | | |
| **Program Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **College/Institution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | |
| **Recommended Sequence – Complete the program matrix for the postsecondary sequence for the articulated CTE program of study. Indicate which courses receive articulated or transcripted credit by PLACING THE NUMBER OF CREDITS IN PARENTHESES after each course title.** | | | | | | | |
| **Semester 1** | | | **Semester 2** | | | | |
|  | | |  | | | | |
| **Semester 3** | | | **Semester 4** | | | | |
|  | | |  | | | | |
| **Provide a list of career options for students who complete the program:** | | | | | | | |

STEP 2E: VALUE-ADDED OPTIONS – Fill in the name of the partnering college or agency. Specify the credential that students will earn. Under value-added, indicate the number of credits or hours granted. This information is required before a program can be designated as Tech Prep.

|  |  |  |  |
| --- | --- | --- | --- |
| **Option** | **Partner** | **Credential** | **Value added for CTE completers** |
| **Example:**  **Dual Enrollment** | **Cooper College** | **AS in Engineering Technology** | **12 Credit Hours Earned for CTE Completers** |
| Dual Enrollment |  |  |  |
| Transcripted Credit |  |  |  |
| Articulated Credit | Anne Arundel Community College (AACC) | Certificate or an Associate of Applied Science (AAS) Degree in EMT Paramedic | AACC will grant articulated college credit for EMT 105 – Emergency Medical Technician – Basic (EMT-B) to students who successfully complete the EMS 106 – Emergency Medical Technician (165 hours) through Maryland Fire and Rescue Institute (MFRI). A student will also be eligible to receive up to 10 articulated course credits following specific conditions in the agreement. |
| Cecil College (CC) | Associate of Applied Science (AAS) in Fire Science Technology | CC will grant up to 32 credits to students who successfully complete the program at MFRI of the University of Maryland following specific conditions in the agreement. |
| College of Southern MD (CSM) | Associate of Applied Science (AAS) Degree in Fire Science | CSM will grant up to 20 credits to students who successfully complete the program at MFRI of the University of Maryland following specific conditions in the agreement. |
| Frederick Community College (FCC) | Associate of Applied Science (AAS) in Fire Service Administration | FCC will grant up to 15 credits to students who successfully complete the courses at MFRI following specific conditions in the agreement. |
| Prince George’s Community College (PGCC) | Associate of Applied Science (AAS) Degree in Fire Science | PGCC will grant up to 18 credits to students who successfully complete the program at MFRI of the University of Maryland following specific conditions in the agreement. |
| University of Maryland University College | Depends upon the major | The number of credits in the Bachelor’s Degree program at UMUC depends upon the degree program and the articulation agreement with the community college. |
| Credit by Exam |  |  |  |
| Advanced Placement |  |  |  |
| Apprenticeship Approved by MATC\* |  |  |  |
| Certification(s) | Maryland Fire and Rescue Institute | * Emergency Medical Technician¹ * Emergency Medical Responder¹ * Fire Fighter I² * Hazardous Materials Operations² * Fire Fighter II² * Rescue Technician – Site Operations³ * Rescue Technician – Vehicle and Machinery Extrication² | ¹Certification by the Maryland Institute of Emergency Medical Services System and the National Registry of Emergency Medical Technicians    ²National Certification by the Maryland Fire Service Personnel Qualifications Board, National Board on Fire Service Professional Qualifications and International Fire Service Accreditation Congress  ³Prerequisite for the Vehicle and Machinery Extrication certification |
| License |  |  |  |
| Degree |  |  |  |
| Other (specify) |  |  |  |

\*MD Apprenticeship and Training Council

**STEP 2F: INDUSTRY-MENTORED PROJECT OR WORK-BASED LEARNING OPPORTUNITIES**Check each box that applies.

PAC members and other industry partners provide supervised (WBL) experiences and/or industry-mentored projects for all students who demonstrate performance of the competencies necessary to enter into this phase of the program. Supervised work-based learning experiences are required for all students demonstrating readiness to participate. For the few who do not participate, alternative capstone experiences should be provided (i.e., in school work experiences, a culminating project, or another experience comparable in rigor). Each type of work-based learning is defined in the glossary. Job shadowing is **not** acceptable for credit in a CTE program.

1.  Integrated WBL 2.  Capstone WBL 3.  Registered Apprenticeship  
4.  Internship 5.  Industry-Mentored Project 6.  In-school clinic or school-based enterprise

**STEP 2G: STUDENT ORGANIZATIONS PROVIDED TO STUDENTS IN THE PROGRAM**

Check each box that applies or specify if “Other” is selected.

Students will develop and apply technical and academic skills, as well as Skills for Success, through participation in:

DECA  FFA  SkillsUSA  FBLA  HOSA

OTHER (specify)  Local fire and rescue company membership

STEP 3: INSTRUCTIONAL PROGRAM DATA SHEET

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Local School System (LSS) and Code: | | |  | | | |
| Name of Local Director of CTE: | |  | | Phone: |  | |
| LSS Program Title: | **Fire & Rescue** | | | | CIP Code: | **43.0250** |

*STEP 3.1 – DATA SHEET: PATHWAY OPTIONS*

|  |  |
| --- | --- |
| **1.** | Fire & Rescue |
| **2.** |  |
| **3.** |  |
| **4.** |  |

*STEP 3.2 – DATA SHEET: INSTRUCTIONAL PROGRAM CREDIT BY GRADE(S)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Credits per year per pathway option as reflected by Course Sequences** | **9** | **10** | **11** | **12** | **TOTAL** |
| 1. Fire Emergency Medical Training/High School Cadet |  |  | **2** | **2** | **4** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**Total number of credits for program completion: 4**

*STEP 3.3 – DATA SHEET: CAREER AND TECHNOLOGY EDUCATION PROGRAM SITES*

|  |  |  |
| --- | --- | --- |
| **Pathway Options** | **School Name(s) Sites** | **School Number** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Maryland Fire and Rescue Institute**

**University of Maryland**

**Fire Emergency Medical Training/High School Cadet Program**

**Agreement**

The Maryland Fire and Rescue Institute (MFRI) , in cooperation with jurisdictional fire associations and fire departments have conducted high school based fire, rescue and EMS/EMR programs for over twenty years. The Fire Emergency Medical Training/High School Cadet Programs are of great benefit to the students enrolled as well as the fire departments of the State where the cadets will eventually serve either as volunteer or career firefighters. Students who complete the high school cadet programs learn job related skills and achieve state and national professional qualifications, as well as equivalent college credits.

Coordination and management of the high school cadet programs are very important as it is a partnership between MFRI, local fire departments/associations, the individual school systems of the jurisdictions involved and the Maryland State Department of Education (MSDE). The purpose of this document is to clarify and articulate the general responsibilities and duties of each party to the agreement toward improving communication and high school cadet program management.

**Maryland Fire and Rescue Institute:**

1. Provide instructors certified by the Maryland Instructor Certification Review Board (MICRB) to teach appropriate subjects.
2. Provide the necessary fire, rescue, and EMS equipment required to teach appropriate subjects.
3. Provide the necessary training structures and props that are used to train firefighters in practical evolutions.
4. Provide the curriculum, student manuals, and instructor guides required for appropriate courses. All curricula will meet or exceed National Fire Protection Association (NFPA) Professional Qualification Standards or other relevant standards.
5. Provide management oversight, coordination, and control of the learning environment while the high school cadets are at the various MFRI facilities. Ensure adherence to all policies and requirements of MFRI programs.
6. In general, a minimum of 15 high school cadets are required to conduct a high school cadet program and a minimum of 10 students is required to continue the class once started. Exceptions may be made to this policy by MFRI on a specific basis depending upon circumstances at the local level.
7. The MFRI Course Catalog will be provided to the high school each year. This document specifies MFRI policies, course requirements, and available classes.
8. Communicate and work closely with the representatives of the local high school and the local fire department or fire association.

**Participating High Schools:**

1. Have a MSDE state-approved MFRI CTE program of Study in Fire Emergency Medical Training/High School Cadet.
2. Promote the high school cadet opportunities within the school system and direct students who are interested in this career field toward this opportunity.
3. Ensure the students enrolling in the program meet the fitness for duty status as indicated by the physician’s signature on the medical release form.
4. Ensure that support is in place to assist students to become successful in the program and complete the Maryland Institute of Emergency Medical Services System and the National Registry of Emergency Medical Technicians examinations, both written and practical.
5. The course of action for students who fail to achieve the required pass rate on the MFRI exams will be evaluated on a case by case basis for continuation in the program.
6. Work with MFRI Regional Coordinator to address performance or disciplinary issues and evaluate student performance, using high school grading criteria that has been shared with MFRI representatives.
7. Communicate and work closely with the representatives of MFRI and the local fire department or fire association.
8. Conduct on-site observations of the student in the program when the student is in a work-based learning situation or receiving instruction at the fire house or other learning environment away from the school.

**Local Fire Department/Association:**

1. Provide a point of contact that is responsible for the management of the high school cadet program to work with MFRI and high school representatives.
2. Promote the high school cadet program within the jurisdiction and have information available to prospective students.
3. Assist MFRI by helping to provide the necessary fire, rescue, and EMS equipment required to teach appropriate subjects.
4. Provide Personal Protective Equipment to participating students.
5. Provide opportunities for the student to ride on EMS calls to obtain required Patient Assessments during Emergency Medical Technician training.
6. Work with the MFRI Regional Coordinator and participating High Schools to address performance or disciplinary issues.
7. The course of action for students who fail to achieve the required pass rate on the Maryland Institute of Emergency Medical Services System and the National Registry of Emergency Medical Technicians exams will be evaluated on a case by case basis for continuation in the program.
8. Ensure that the high school cadets remain a member in good standing of the local fire department and are covered by insurance. Notify both MFRI and the high school if a cadet fails to meet any of these requirements.
9. Communicate and work closely with the representative of MFRI, the local fire department or fire association, and the high school administration.
10. Conduct on-site observations of the student in the program when the student is in a work-based learning situation or receiving instruction at the fire house or other learning environment away from the school.

**Maryland State Department of Education:**

1. Promote the state CTE Program of Study in Fire Emergency Medical Training/High School Cadet
2. Support local school systems in the implementation of the program
3. Facilitate statewide articulation agreements for industry certification and early college credit, as necessary.

**High School Cadet Program**

**Description of Student Duties**

**To Be Completed by Cadet:**

Name of Cadet (print): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of School/Program: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**To Be Completed by Physician:**

The Maryland Fire and Rescue Institute conducts instruction for High School Cadets in a wide variety of emergency service courses. Cadets can be required to perform strenuous and/or hazardous duties. Listed below is a general description of what those duties may include. If a Cadet cannot perform these duties he/she will not be permitted to participate in the program.

**Cadet Duties:**

A Cadet in the Maryland Fire and Rescue Institute’s High School Cadet Program may be required to wear fire protective clothing and self-contained breathing apparatus weighing at least 50 pounds in hazardous atmospheres, perform firefighting and rescue operations that expose them to extreme heat, toxic products of combustion, and hazardous materials. They also may be required to lift and operate heavy machinery, carry and raise ladders, and climb ladders up to 135 feet in height. Cadets may achieve heart rates of 85 – to 100% of their maximum capacity during training operations.

**Fitness for Cadet Duty Status:**

The physician authorizes the following duty status for the High School Cadet:

\_\_\_\_\_ FULL DUTY: Duty status includes all elements listed in the position description listed above.

Signature of Physician: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of Physician (printed): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_